APPENDIX B

COMPARISON OF COSTS FOR SCAPS VERSUS CONVENTIONAL DRILLING

1. Current experience has shown that daily costs to operate the SCAPS may be higher than operation of a hollow stem auger. The following comparison will show, however, that because of the unique capabilities of the SCAPS, total project costs will probably still be less than if conventional drilling techniques alone are used. The costs used for this illustration are based on CEMRK drill crew and SCAPS average daily rates. Assumptions are the same as those shown on page B-3: working days do not include mob/demob but mob/demob costs are averaged in total cost. Resistivity pushes, prepushes and pushes to obtain soil samples have not been accounted for in this comparison. Twenty-five LIF pushes and eleven wells are installed during an average project.

2. Assumptions are:

a. An average 25 foot deep LIF direct push boring (from table on B-3) is equivalent to a 25 foot deep auger boring made to collect five soil samples for laboratory analysis.

(1) two of these 25-foot-deep borings can be drilled and sampled in a day

(2) includes set up, drilling, sampling, sample preservation, decontamination, and backfilling

(3) 25 borings/2 a day = 12.5 days

b. An average 21 foot deep well point installed in sand by direct push is equivalent to the same depth well installed through hollow stem augers (the most frequently used method of well installation on HTRW sites).

(1) Each well installed through hollow stems will take approximately 12 hours to set up, drill, set well, decon, and develop.

(2) 11 wells x 12 hours = 132 hours/8 hours = 16.5 days

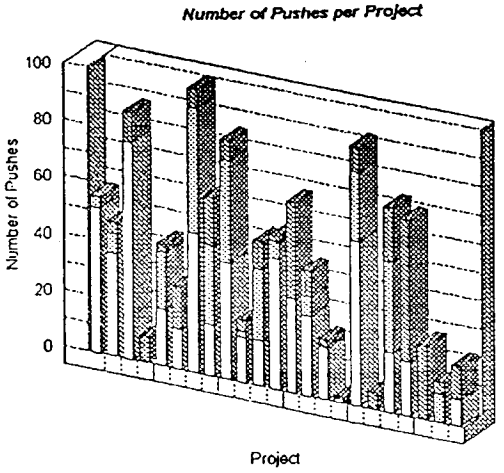
c. The average daily cost for hollow stem auger drilling, at $2,765/day, includes labor, overhead, perdiem, and materials and two days mob/demob.

(1) Soil boring and sampling is estimated to be $34,563.

(2) Well installation is estimated to be $45,622.

3. It is estimated to cost $80,185 and take 29 days to accomplish with conventional drilling equipment essentially the same work that SCAPS can do in 6 days for $24,185.

Typical Cost and Production Data for the Kansas City District SCAPS - FY95



Average Production per Project - FY 1995				
	LIF	Wells	Other	Total
Pushes	25	11	11	47
Feet	675	233	216	1124

Average Working Days per Project: 6*
Average Project Cost: $24,185**

Notes:

*Average Working days do not include Mobilization and Demobilization time.

** Average Project Cost includes cost of Mobilization and Demobilization, Labor, Per Diem, Material

*** Other pushes include resistivity, soil samples, pre-pushes.